### **Dan Nickey**

#### **Iowa Waste Reduction Center**

at the University of Northern Iowa 319/273-8905









# Area Source Standards: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities

40 CFR Part 63, Subpart 6B

http://www.iowadnr.gov/air/prof/NESHAP/

### General Contact Information

- Petroleum Marketers and Convenience Stores of Iowa (PMCI)
  - John Maynes <u>john@pmcofiowa.com</u> or 515-224-7545
- Technical air assistance for small businesses
  - Dan Nickey UNI IAEAP <u>daniel.nickey@uni.edu</u> or 319–273–6588
- NESHAP questions
  - John Curtin DNR Air Quality Bureau john.curtin@dnr.iowa.gov or 515-281-8012
  - Christine Paulson DNR Air Quality Bureau <u>christine.paulson@dnr.iowa.gov</u> or 515-242-5154

#### 6B - Overview

- Affected sources
- Rule summary of 6B
  - Compliance dates
  - Rule requirements
  - Recordkeeping requirements
  - Reporting requirements
  - Permitting issues
- Review of state's new permit template
- Why the new rule?
- Overview of new compliance calendar/log book

## Why Area Source NESHAP?

#### The federal Clean Air Act (CAA) requires EPA to:

- Reduce public's exposure to Hazardous Air Pollutants (HAPs)
- Set standards for the listed 70 area source categories
- Identify and list at least 30 HAP that pose the greatest risk in urban areas (EPA identified/listed 33)
- Identify and list area source categories (industries or operations) that represent 90% of the 33 urban HAP emissions (EPA's "urban air toxics strategy")
- Set standards for the listed area source categories

### 6B affected sources

- Adopted into the IAC in March 2009 (567 IAC 23.1(4)"eb")
- Rule applies to:
  - Gasoline Terminals (> 20,000 gal/day potential throughput)
    - Most are permitted, some are Title V facilities
  - Pipeline breakout station
  - Pipeline pumping station
  - Gasoline Bulk Plant (< 20,000 gal/day potential throughput)

# 6B - Potential Requirements for Gasoline Terminals

- Tanks must have floating roofs or vent to control device
- Emission control device on (tanks) loading rack
- Leak detections on tanks
- Monthly inspections
- Throughput monitoring
- Emissions testing

### 6B - What is a bulk gasoline plant?

- Intermediate storage facilities of gasoline
- Have a limited gasoline throughput
- Often located in rural areas
- May also store and handle other petroleum products (i.e. oil)
- Do not distribute gasoline directly to motor vehicles

# 6B - What is gasoline?

- Any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines. 40 CFR 60.501
- 27.6 kilopascals = 4 psi
- Gasoline/Ethanol blends up to E85 have
   v. p. > 4 psi
- Vapor pressure of 100% ethanol is at 2.32 psi (100 F)

# 6B - Source of emissions from bulk plants

- Tank truck unloading into storage tanks (usually above ground)
  - Working loss
- Storage tanks
  - Breathing loss
- Loading of gasoline into tank wagons/cargo tanks at a loading rack
- Leaks
- Emissions are volatile organic compounds (VOCs) and hazardous air pollutants (HAPs)

## 6B - Compliance Dates

- New facilities (constructed after Nov. 9, 2006):
  - Compliance: January 10, 2008 or upon startup if startup occurs after January 10, 2008
- Existing facilities: (not a new facility)
  - Compliance: January 10, 2011

### 6B - Iowa's Compliance Strategy

- Develop permit template (i.e. general permit) to limit daily/monthly throughput of gasoline
  - Small bulk plant < 20,000 gallons/month</li>
  - Large bulk plant < 20,000 gallons/ day</li>
  - Permit template
    - Company fills out application
    - After application is reviewed and approved by AQB, it is returned to applicant as permit
    - Will cover all storage tanks and loading racks at the bulk plant

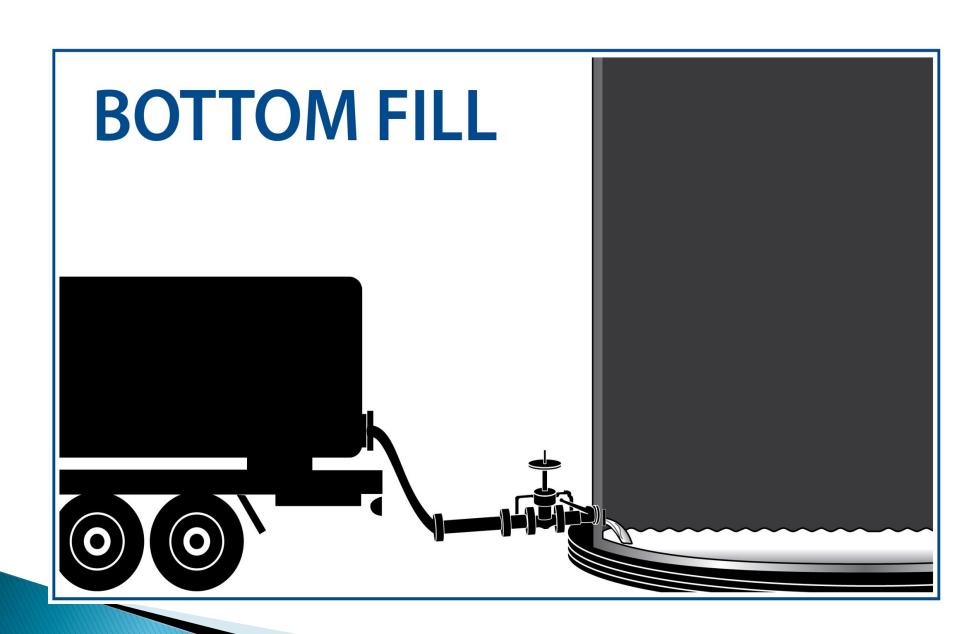
# 6B - Rule requirements

- Facilities must minimize vapor emissions of gasoline by:
  - Minimizing gasoline spills
  - Cleaning up spills expeditiously
  - Cover any open gasoline containers and tank fill pipes
  - Minimize gasoline sent to open waste collection systems (e.g. oil/water separators)

9/16/2010

# 6B – Gasoline Storage Tank – Requirements

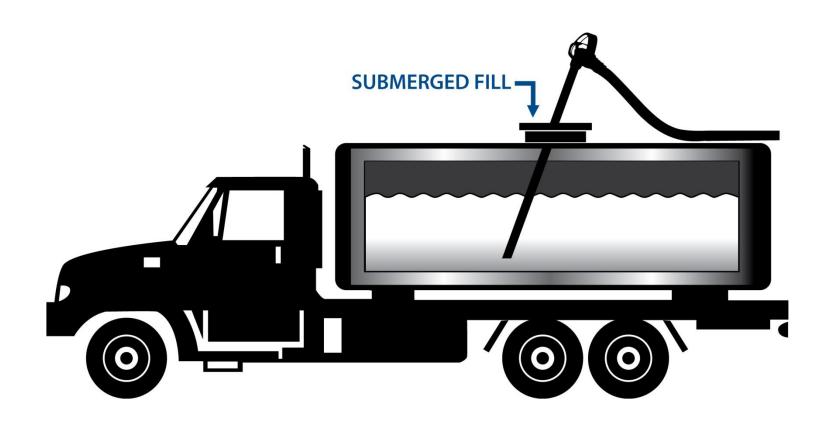
- Gasoline storage tanks  $\geq 250$  gallons must be equipped with submerged fill.
- Bottom loading is a type of submerged fill.
- Fill pipe (drop tubes) installed before 11/09/06 no more than 12 inches from bottom
- Fill pipe (drop tubes) installed after 11/09/06
  - no more than six inches from bottom
- Important: Bulk plants are not required to have vapor balancing systems



# 6B – Gasoline Cargo Tank Trucks – Requirements

- Cargo tanks trucks must be loaded via submerged fill.
- Bottom loading is a type of submerged fill.
- Fill pipe (drop tubes) installed before 11/09/06 no more than 12 inches from bottom
- Fill pipe (drop tubes) installed after 11/09/06
  - no more than six inches from bottom
- Important: Bulk plants are not required to have vapor balancing systems

### 6B - Storage tank/submerged fill



### 6B - Leak Inspection Requirements

- Monthly inspection on all equipment in gasoline service.
  - Include pumps, valves, open-ended lines and connectors.
  - Detection methods using sight, sound and smell are acceptable
  - Analyzers can be used for leak detection.
- Leaks must be repaired as soon as practicable.
  - Initial attempt within 5 calendar days of detection
  - Repair completed within 15 calendar days of detection

### 6B - Recordkeeping Requirements

- Facility must keep following records:
  - Monthly/daily gasoline throughput
  - Location and identification of equipment in gasoline service
  - Monthly leak inspection records
    - Date of inspection
    - Name of staff conducting inspection
    - Signed by owner/operator

### 6B - Recordkeeping Requirements

- For leaking components:
  - Identification of leaking component and location by one of these methods:
    - written description
    - tagged
    - photographs
    - diagrams
    - work orders

### 6B - Reporting Requirments

#### Initial Notification

- Existing sources: must be submitted to DNR by May 9, 2008
   (DNR is still accepting notifications at this time)
- New sources: must be submitted no later than 180 days after startup
- Purpose: Informs DNR that your facility is regulated by 6B
- Notification of Compliance Status
  - Existing sources: must be submitted to DNR by January 10, 2011
  - The submittal of the air permit template will satisfy this requirement.
  - New sources: must certify compliance at the same time they submit the initial notification
  - Purpose: Informs DNR that your facility is in compliance

### 6B - Reporting Requirements

- Semiannual "excess emissions" reports to lowa DNR for:
  - Equipment leaks not repaired within 15 days or where no attempt made within 5 days:
    - Date leak was detected
    - Identify leaking components
    - Date of each repair attempt
    - Reasons for delay of repair
    - Date of successful repair
- If no leaks or no "excess emissions", no report is required.

### 6B - Reporting Requirements

- If facility's monthly or daily throughput is exceeded:
  - Facility must notify DNR within 30 days
- If the facility is a large bulk plant:
  - Per 6B, the facility is now classified as a gasoline terminal and will need to comply with requirements as a terminal
- If facility is a small bulk plant, the second time in 12 month period that the monthly limit is exceeded:
  - Facility must notify DNR within 30 days
  - Facility must apply for a permit for a large bulk plant

### Permit Template

- Permit will contain all requirements from rule.
  - These requirements go into effect on January 10, 2011.
- Permit will also contain either monthly or daily gasoline throughput requirement.
  - These limits go into effect on permit issuance.
- Remember:
  - Records required by 6B must be retained 5 years with most recent 2 years on-site.
  - Throughput records must be for retained 2 years.

# Iowa Department of Natural Resources

Permit Template

#### 6B - Potential Issues

- Facility has other equipment besides the gasoline bulk plant that have air emissions
  - Other equipment permit or exempt
  - Maybe permit template is not appropriate
- Facility owns/operates another facility that is contiguous or adjacent to the bulk plant
  - Consider as a single source
  - Bulk plant is covered by permit template
  - Other facility will be covered by other permits/registration

#### 6B - Potential Issues

- Facility not yet in compliance with 6B
  - Apply for permit and obtain permit prior to compliance date (01/10/11)
  - Notify DNR prior to compliance date and submit compliance plan
  - Work with DNR to get into compliance
- Future modifications
  - Keep list of loading arms/tanks
  - Small plant becomes large obtain a new permit

# 6C - NESHAP for Gasoline Dispensing Facilities

- 40 CFR Part 63, Subpart CCCCCC (6C) applies to Gasoline Dispensing facilities (GDF)
  - Gasoline pumped into motor vehicle (fuel tank for engine)
  - DNR has adopted standard into IAC, but does not require a permit at this time
  - Applies to any facility where gasoline is dispensed
  - Requirements depend on the amount of actual gasoline throughput: gallons per month

# 6C - NESHAP for Gasoline Dispensing Facilities

- Requirements
  - Small GDF (<10,000 gal./month): Best management practices for gasoline vapor and spills
  - Medium GDF (≥10,000 gpm and <100,000 gpm):</li>
     BMP and submerged fill on tanks
  - Large GDF (≥100,000 gpm): BMP, submerged fill, Stage 1 vapor balance, initial/periodic vapor testing.

# 6C - NESHAP for Gasoline Dispensing Facilities

- What are 6C facilities required to do?
  - Be in compliance with the rule by Jan. 10, 2011
  - Employ BMP all facilities
  - Keep records on gasoline actual throughput
    - · Either gasoline received or dispensed
  - Submit notifications (large only)
    - Initial notification was due on May 9, 2008
    - Notification of Compliance Status by Jan. 10, 2011
  - Conduct test of vapor balance system (large only)

#### 6B & 6C- Potential Issues

- Gasoline Dispensing Facility (GDF) is collocated with bulk plant
  - GDF must comply with Subpart 6C
  - Bulk plant must comply with Subpart 6B
  - Bulk plant equipment must be covered by a permit
  - Common tanks?
    - 6B requirements apply if gasoline is pumped into tank wagon/cargo trucks
  - Separate record keeping on throughput

9/16/2010

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  - 1-877-AIR-IOWA (help line)
  - Christine Paulson DNR Air Quality Bureau <u>christine.paulson@dnr.iowa.gov</u> or 515-242-5154

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# Iowa Department of Natural Resources

Permit Template

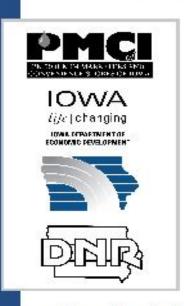
9/16/2010

# Compliance Calendar/Log Book

## 2010/2011

# Compliance Calendar/Logbook for Bulk Gasoline Plants

(Less Than 20,000 gallons/month throughput)





Created by the Iowa Waste Reduction Center Iowa / University of Northern Iowa

# Goals of Calendar/Log Book

- Reminder to complete:
  - Leak inspection
  - Throughput readings
- Education tool
  - SPCC Requirements
  - 6B Rule
- Record keeping tool (documentation)
  - Leak inspection
  - Leak detection
  - Throughput amounts
- Applicable contacts

### Calendar Format





Iowa Air Emissions Assistance Program

2010/2011 Compliance Calendar for Small Bulk Gasoline Plants

January2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
	_	3	·		Ŭ	
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	Monthly Inventory Totals	30
	-					
31					Monthly Inspection Conducted	
					Record Results in Logs 🚨	

# Storage Tank Equipment List

Table includes to	nks of >250 gallons			
Tank ID	Material Stored	Tank Capacity (gallons)	Date of Installation	Loading Method <sup>(1)</sup>
	Gasoline <sup>(2)</sup> Fuel Oil <sup>(3)</sup> Other liquid:			☐ Top load, splash fill ☐ Submerged fill (i.e., drop tube) to within 12" of bottom ☐ Submerged fill (4) to within 6" of bottom
	Gasoline (2) Fuel Oil (3) Other liquid:			☐ Top load, splash fill ☐ Submerged fill (i.e., drop tube) to within 12" of bottom ☐ Submerged fill (4) to within 6" of bottom
	Gasoline <sup>(2)</sup> Fuel Oil <sup>(3)</sup> Other liquid:			☐ Top load, splash fill ☐ Submerged fill (i.e., drop tube) to within 12" of bottom ☐ Submerged fill (4) to within 6" of bottom
	Gasoline <sup>(2)</sup> Fuel Oil <sup>(3)</sup> Other liquid:			☐ Top load, splash fill ☐ Submerged fill <sup>(4)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(4)</sup> to within 6" of bottom
	Gasoline <sup>(2)</sup> Fuel Oil <sup>(3)</sup> Other liquid:			☐ Top load, splash fill ☐ Submerged fill (i.e., drop tube) to within 12" of bottom ☐ Submerged fill (4) to within 6" of bottom
	Gasoline (2) Fuel Oil (3) Other liquid:			☐ Top load, splash fill ☐ Submerged fill (i.e., drop tube) to within 12" of bottom ☐ Submerged fill (4) to within 6" of bottom
	Gasoline (2) Fuel Oil (3) Other liquid:			☐ Top load, splash fill ☐ Submerged fill <sup>(4)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(4)</sup> to within 6" of bottom
	Gasoline (2) Fuel Oil (3) Other liquid:			☐ Top load, splash fill ☐ Submerged fill <sup>(4)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(4)</sup> to within 6" of bottom

- (1) Bottom filling is considered to be a type of submerged filling.
- (2) Includes all blends of gasoline (i.e., E10, E85, gasohol)
- (3) Includes fuel oil grades No.1 through No.6, kerosene, and diesel fuels.
- (4) For tanks storing gasoline, submerged fill pipes installed before November 9, 2006 must be no more than 12" from the bottom of the tank. Submerged fillpipes installed after November 9, 2006 must be no more than 6" from the bottom of the tank.

# Loading Rack Equipment List

#### LOADING RACK - EQUIPMENT LIST

	MACK - EQUIT MENT				
Arm ID	Date of Construction	Rated Pump Capacity (gallons per minute)	(1) Monthly Throughput (gallons)	Materials Loaded (check all that apply)	(2) Loading Method (check one)
				Gasoline (3) Fuel Oil (4) Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(5)</sup> to within 6" of bottom
				□ Gasoline <sup>(3)</sup> □ Fuel Oil <sup>(4)</sup> □ Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(5)</sup> to within 6" of bottom
				□ Gasoline <sup>(3)</sup> □ Fuel Oil <sup>(4)</sup> □ Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(5)</sup> to within 6" of bottom
				□ Gasoline <sup>(3)</sup> □ Fuel Oil <sup>(4)</sup> □ Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(5)</sup> to within 6" of bottom
				□ Gasoline <sup>(3)</sup> □ Fuel Oil <sup>(4)</sup> □ Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom ☐ Submerged fill <sup>(5)</sup> to within 6" of bottom
				□ Gasoline <sup>(3)</sup> □ Fuel Oil <sup>(4)</sup> □ Other liquid:	☐ Top load, splash fill ☐ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12° of bottom ☐ Submerged fill <sup>(5)</sup> to within 6° of bottom
				Gasoline (3) Fuel Oil (4) Other liquid:	□ Top load, splash fill □ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12" of bottom □ Submerged fill <sup>(5)</sup> to within 6" of bottom
				Gasoline (3) Fuel Oil (4) Other liquid:	□ Top load, splash fill □ Submerged fill <sup>(5)</sup> (i.e., drop tube) to within 12° of bottom □ Submerged fill <sup>(5)</sup> to within 6° of bottom

- (1) Required for gasoline and gasoline blends. If unknown, report: "< 20,000".
- (2) Bottom filling is considered to be a type of submerged filling.
- (3) Includes all blends of gasoline (i.e., E10, E85, gasohol).
- (4) Includes fuel oil grades No. 1 through No.6, kerosene, and diesel fuels.
- (5) For arms loading gasoline, submerged fill pipes installed before November 9, 2006 must be no more than 12" from the bottom of the tank. Submerged fill pipes installed after November 9, 2006 must be no more than 6" from the bottom of the tank.

### Gasoline Throughput Inventory Log

#### SAMPLE MONTHLY GASOLINE AND GASOLINE BLENDS THROUGHPUT LOG: Small Bulk Gasoline Plant (monthly limit < 19,999 gallons/month) Sam Brown Inspector Signature: Inspector Name: (Closing Inventory Product Type Opening Inventory Inspector Initials Tank Amount Received Amount Loaded Out-Tank 1 gasoline 10,000 500 500 10,000 Tank 2 gasoline blend - E85 14000 15000 1000 gasoline 30146 Tank 3 25000 5896 750 SB Tank 4 gasoline blend - El O 2.250 Monthly Facility Totals:

<sup>(1)</sup> The Closing Inventory is determined by: (opening inventory - amount loaded out + amount received).

# Leak Inspection Monitoring Log

#### SAMPLE MONTHLY LEAK INSPECTION MONITORING LOG

(leak inspection monitoring should be conducted when fluid is being circulated for all equipment in gasoline service at the facility, and inspection date recorded on the calendar each month)

Inspector Name: Matthew Coolstein	Inspector Signature:	nature: W.C.W		
<sup>(1)</sup> List Equipment Type/Name	(2) <u>NO</u> Leaks Detected: Add Date and Inspector Initials	(3) YES Loak Detected: Add Date, then go to Leak Detection Repair Form(s) in back of calendar		
Pump/Gas		Y - 8/14/09 MC		
Pump/E85		Y - 8/14/09 MC		
Connectors/Gas	N- \$/14/09 MC			
Commeetors/E85	N- 8/14/09 MC			
Valve/Gas	N- 8/14/09 MC			
Valve/E85	N- 8/14/09 MC			
Open-ended Lines/Gas	N-8/14/09 MC			
Open-ended Lines/E85	N-8/14/09 MC			
Other (add as needed)				

<sup>(1)</sup> List the type of equipment in this column. All equipment in gasoline service must be monitored monthly including but not limited to all pumps, valves, open-ended lines, connectors, etc.

<sup>(2)</sup> If no leak is detected, enter "N", date inspected and inspector's initials.

<sup>(3)</sup> If a leak is discovered, enter "Y", date inspected and inspector's initials. You can use one of the Monthly Leak Detection Repair Forms (Work Order, Tag ID, Written Description, Maps or Photographs) to document leak detection and repair activity.

# Leak Detection Monitoring Log

- Multiple options to document leaks:
  - Tagging system
  - Written descriptions
  - Photographs
  - Written work orders
  - Diagrams of operation

### Leak Detection Monitoring Form

#### SAMPLE MONTHLY LEAK DETECTION REPAIR FORM - WORK ORDER

Inspector Name: Sam Brown		Inspector Signature:				
(1) List Equipment Type	Leak detected (y/n) & Date	(2) Location & ID of Leak	(3) Leak type (V/L)	(4) Method used & Inspector Initials	Work Order # and Issue Date	(6) Repair Complete Date*
Pump/Gas	Y - \$/14/09	Arm 2	L	Sight - SB	W0 1254 8-14-09	8-24-09
Pump/E85	Y - 8/14/09	Tank 3	V	Smell - SB	W0 1255 8-14-09	8-24-09
Valve/E85	Y - 9/10/09	Valve closest to pump	L	Sight - SB	W0-1256 9-10-09	9-11-09

<sup>(1)</sup> List the type of equipment in this column. All equipment in gasoline service must be monitored monthly including but not limited to all pumps, valves, open-ended lines, connectors, etc.

<sup>(2)</sup> If a leak is discovered, enter the Arm or Tank ID Number where the leak was discovered (use ID numbers required in the air permit). Be specific on which component is leaking if there is more than one component.

<sup>(3)</sup> Enter "V" for a vapor leak or "L" for a liquid leak.

<sup>(4)</sup> Enter method used: "Sight" or "Smell" or "Sound" and the initials of the inspector. If leak detection instrument is used enter "instrument"...

<sup>(5)</sup> Enter Work Order # and Issue date.

<sup>(6)</sup> Enter repair complete date.

<sup>\*</sup>If all repairs were attempted within 5 days of discovery and completed within 15 days, a Semiannual Report is not required. A sample Semiannual Report is found on page 7 of the calendar.

### Possible Future Activities

- Assistance workshops
- Factsheets
- Newsletters
  - IWRC
  - DNR
  - PMCI
- List serves

### General Contact Information

- NESHAP questions
  - Christine Paulson DNR Air Quality Bureau <u>christine.paulson@dnr.iowa.gov</u> or 515-242-5154
  - Diane Brockshus DNR Air Quality Bureau (Compliance)
     diane.brockshus@dnr.iowa.gov
     or 515-281-4801
- Permitting questions (not in Linn or Polk County)
  - John Curtin- DNR, Air Quality Bureau john.curtin@dnr.iowa.gov or 515-281-8012 or 1-877-AIR-IOWA (help line)
- Technical air assistance for small businesses
  - Dan Nickey UNI, Iowa Waste Reduction Center daniel.nickey@uni.edu or 319-273-8905

### Thank You

Questions?

http://www.iowadnr.gov/air/prof/NESHAP/